



Launch Mission Execution Forecast

Mission: Falcon 9 NASA Crew-3

Issued: 29 Oct 2021 / 0730L (1130Z)

Valid: 31 Oct 2021 / 0216 – 0226L (0616 – 0626Z)



Forecast Discussion: A large and mature storm system continues to meander across the Ohio Valley and Mid-Atlantic this morning. It will move slowly to the northeast over the next day, with breezy west winds and unsettled and showery conditions across the Spaceport through the first part of Saturday.

As the low gets further away from Florida, cool and dry conditions will filter into the region Saturday afternoon leading to favorable launch conditions for the initial opportunity early Sunday morning. Lingering low level moisture will bring low-topped Cumulus Clouds, which will be the main concern, along with a few light showers and Flight Through Precipitation. However, no significant precipitation or cloud development is expected.

A large area of high pressure builds in over the eastern US early next week behind the departing low, bringing several days of seasonably cool and dry weather across Central Florida. By the backup launch opportunity on Wednesday, onshore flow will bring better chances for low topped showers into the coast, keeping Cumulus Clouds and Flight Through Precipitation as the main concerns.

Launch Day	Probability of Violating Weather Constraints							
	20%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation						
	Weather Conditions						Additional Risk Criteria	
	Weather:	Isolated Showers	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Visibility:	7 miles	Cumulus	Scattered	3,000	8,000	Ascent Corridor Recovery:	High
	Temp / Humidity:	68°F / 70%					Booster Recovery:	Moderate
	Liftoff Winds (200’):	260° 10 - 15 mph					Solar Activity:	Moderate
72-Hour Delay	Probability of Violating Weather Constraints							
	20%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation						
	Weather Conditions						Additional Risk Criteria	
	Weather:	Isolated Showers	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Visibility:	7 miles	Cumulus	Scattered	3,500	5,000	Ascent Corridor Recovery:	Low
	Temp / Humidity:	68°F / 75%	Cirrus	Scattered	25,000	30,000	Booster Recovery:	Low
	Liftoff Winds (200’):	040° 7 - 12 mph					Solar Activity:	Low

Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.

Next Forecast Will Be Issued	30 Oct 2021
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